Invacare® ***Alegio NG***

Bed

User manual **EN**

CE

This manual must be given to the user of the product.
Before using this product, read this manual and save for future reference.

INVACARE

Yes, you can.

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Congratulations

Congratulations on your choice of *Invacare*® ***Alegio NG*** nursing bed. ***Alegio NG*** is the dismountable nursing bed from Invacare® designed especially for home nursing and long term care. ***Alegio NG*** bed provides ease of handling combined with good functionality.

Please read the entire user manual before using the bed.
If you have any questions concerning the use or maintenance, please contact us.

All indications of right and left are based on that a person lying on his back in the bed.

Please note that there may be sections in this user manual, which are not relevant to your bed, since this manual applies to all (on the date of printing) existing modules.

1. General information

1.1 Product use

- The ***Alegio NG*** bed has been developed for domestic care, long term care and features a comfortable sitting and lying position for the patient. Furthermore, ergonomical operation for the carer is ensured.
- The ***Alegio NG*** bed is defined to be used according to;
  Application environment 3; Long-term care in a medical area where medical supervision is required and monitoring is provided if necessary and medical electrical equipment used in medical procedures may be provided to help maintain or improve the condition of the patient.
  Application environment 4; Care provided in a domestic area where medical electrical equipment is used to alleviate or compensate for an injury, disability or disease.
- If the patient height exceeds 2 meters it is recommended to use a mattress support extension.
- The max. patient weight: 135 kg, provided that the weight of the mattress and the accessories do not exceed 35 kg. (Safe working load weight: max. 170 kg).
- The bed is not intended for children under 12 years and psychiatric patients.
- Furthermore; Be aware of the limitations of use mentioned in the warnings. (chapter 1.4)
- The following parts may be in contact with user during normal use of bed: bed ends, mattress deck, mains cord and hand control.
- The ***Alegio NG*** is not intended to be used for patient transport.
- The ***Alegio NG*** is suitable for refurbishment.
- The ***Alegio NG*** bed is suitable for disinfection with household disinfectants.

= 135 kg

= 170 kg

- The estimated product life cycle is 5 years for a ***Alegio NG*** bed.
- The bed is quipped with loose cables, which have to be exchanged if damaged.
- The control unit, external power supply, hand control and motors are protected according to IPX6.
  Bed with lockable hand controls is only protected according to IPX4.
  (The IP rating is a measure of protection against ingress of foreign matter into a product)
- Remove the plug from the mains voltage before moving the bed. The cable must be kept clear off the floor and the castors during transportation.

1.2 Certification

- The ***Alegio NG*** bed is marked with the CE - mark in accordance with directive 93/42/EEC concerning Medical Apparatus.
- The ***Alegio NG*** bed have been approved according to IEC 60601-2-52
- The ***Alegio NG*** bed has been approved and marked with the TÜV mark.
- The ***Alegio NG*** bed has undergone a risk analysis according to EN ISO 14971:2001-03
- The ***Alegio NG*** bed has undergone a usability analysis according to IEC 60601-1-6

Invacare® is certified according to DS/EN ISO 9001 and ISO 13485 which ensures that our customers are always supplied with products of uniform quality.

Throughout the entire production process our materials/products are quality controlled by the operators.
Additionally, a final test is carried out prior to packaging and shipping.
If the product does not correspond to the quality demands of *Invacare*®, it will be discarded.

If, contrary to our expectations, a problem should arise in connection with the delivered product, please contact your *Invacare*® supplier. An address list is shown on the back side at this manual.

Invacare® reserves the right to alter product specifications without prior notice

1.3 Labels and symbols

WARNING - This symbol warns of dangers.
If the necessary measurings not are taking, it can result in injury or damage to the bed.

NOTE - This symbol inform about important information and guidelines.

Instruction - Reference to the user manual.

EN

To identify the product please look at the Product-label.

Type no. of the bed.
Serial no.
Date of production.
Electrical information
See chapter 7
Symbols
See chapter 1 and 7

1.4 Safety and Warnings

Invacare® accepts no liability for any use, change or assembly of the product other than as stated in this user manual. Accessories not mentioned in this manual must not be used.

The ***Alegio NG*** bed fulfils all requirements regarding maximum distances.
However, if the bed is used for the care of patients with a small body dimensions, it must be especially noted that there is a risk of such a patient slipping through the openings between the side rails or through the opening between the side rail and the mattress support.

The bed must not be used by patients under 12 years of age, or by patients with body size equivalent to an average 12 years old or smaller.

The bed, in combination with side rails must not be used for persons under 45 kg or under 150 cm height. Either for persons that are restless (spams) or confused, unless a professional risk assessment has taken place and been accepted.

When using side rails it is essential to ensure correct fitting - **otherwise there is danger of entrapment / suffocation between mattress support, side rail and bed end**.

Do not place any objects underneath bed.

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Electromagnetic interference between the bed and other electrical products can occur. To reduce or eliminate such electromagnetic interference, increase the distance between the bed and the products or switch them off.
This medical bed can be used together with medical electrical equipment connected to the heart (intracardially) or the blood vessels (intravascularly), provided that following points are respected:
• The medical bed should be equipped as describe above with means for potential equalization connection marked out by a symbol shown in the back of this manual.
• Medical electrical equipment should not be fixed on the bed's metallic accessories such as side rails, lifting pole, drip rod, bed ends ect. In addition, the medical electrical equipment power supply cord should be kept clear of the accessories or any other moving part of the bed.

Make sure that there are nothing under, over, or near the bed that can limit the movement of the bed or the mattress support, such as furniture, window frames and storage boxes.

Always lower the bed to the lowest position before leaving the patient in the bed unattended.

There is a risk of entrapment of fingers in the bed moving parts.

- It can be dangerous to roll over the mains cable.
- Do not bring mains cable into moving parts.
- Disconnect the plug from the mains before moving the bed.
- The cables must be mounted in such a way that they are kept clear of the floor and do not block the castors.

We recommend to mount the mains cable on the hook for this purpose, see picture.

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1.5 Warranty

The warranty covers all material and production defects for 2 years from the date of delivery, provided it can be demonstrated that such defects were present before delivery. All manufacturing faults or defects must be promptly reported *Invacare*® may repair the fault or replace the component. The warranty provided by *Invacare*® does not cover additional costs (transport, packaging, labour, sundry expenses, etc. are for the customer's account).

The warranty does not cover:

Damage caused during transport that is not directly reported to the forwarder at the moment of delivery.
Repairs performed by unauthorized centers and personnel.
Parts subject to normal wear.
Malicious damage or damage caused by improper use of the bed.

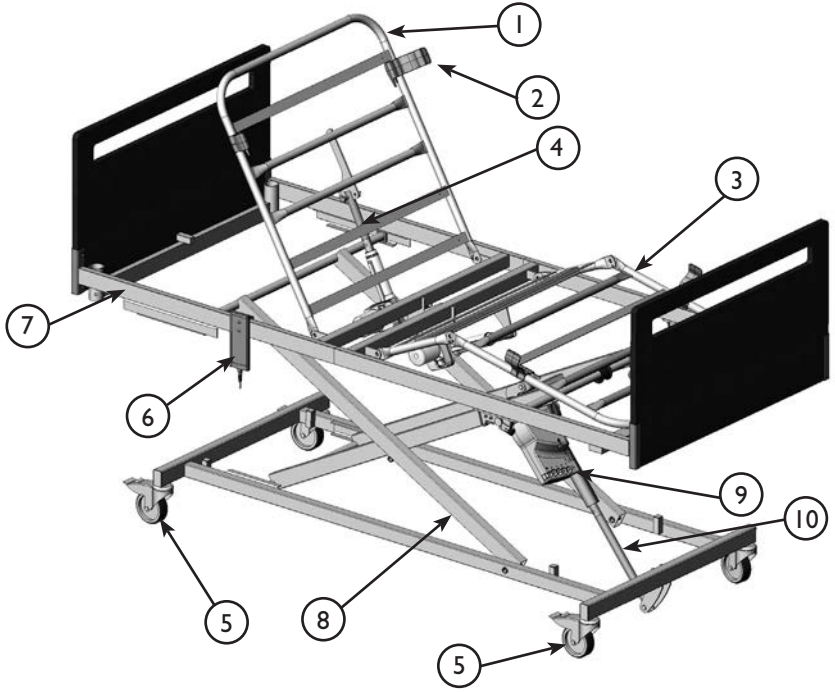
2. Receiving the bed

2.1 Parts of the bed

Check the packaging, if the bed shows any signs of damage upon delivery, please see the terms of delivery.

Follow part must be provided:

1. Mattress support, head end
2. Mattress support bracket (4 pcs)
3. Mattress support, foot end
4. Motor for head end.
5. Castors (4 pcs)
6. Hand control
7. Base frame
8. Shear Arms
9. Control Box
10. Lift Motor



Optional :

- Beds Ends
- Beds Ends fitting
- Lifting pole
- Rastofix for leg section
- Mattress support extension (15 cm)
- Motor for leg end
- Side rail (Verso 11, Line, Britt V)
- Support handle
- Safety floor mattress
- Equipotentiality plug
- 1V Drip Rod

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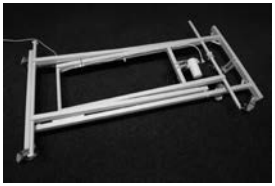
2.2 Assembly of the *Alegio NG* bed

For questions concerning the assembly of your bed please contact your dealer or Invacare customer service.

1. Place base and shear arm assembly on floor and lock all castors.
2. Place foot section on shear arms at end of bed with lifting actuator. Align the plastic snap-lock fittings with the pivot pins on the shear arm. Press down firmly to engage the pivot pins in the snap-lock fitting. Rotate the locking pin on the snap-lock fitting to prevent disengagement of foot section.
3. Place head section on shear arms at opposite end of bed. Align the square plastic glides with channel on head section. Align the frame tubes with the brackets on the foot section.
4. Push the head section toward the foot section until the frame tubes are touching. Secure the head and foot sections on each side with the threaded knob.

1.



2.A

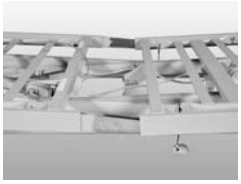
2.B

2.C

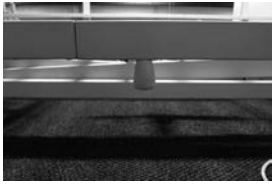
3.A

3.B

3.C



4.A



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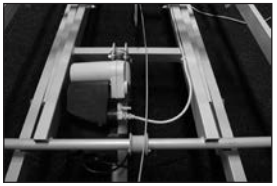
If the bed is provided with cable actuated foot section, follow step 5.

5. Unfasten cable from head section.
   Lift foot section deck and lay cable over tube and guide pulley.
   Lower foot section and then raise the knee pivot point.
   Attach cable fitting to bottom hole of deck bracket with clevis pin provided.
   Make sure the head of the clevis pin is on the same side as the Rastofix deck brackets.
   Secure clevis pin with hitch pin.
   Lower the knee pivot point and ensure the cable and pin are mounted properly.

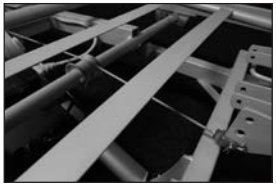
5.A



5.B

5.C

5.D



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Control Box

The control box is latched to the bed lifting motor. The control box is provided with a label with symbols showing where to connect the motors' plugs.

- Backrest motor.
- Thigh section motor.
- Hand control.
- Bed lifting motor.

2.3 Wiring

1. Route the head actuator cable under the control box, over the shear assembly cross tube and into the hook on the mattress support cross tube. Route cable under head section motor housing. Plug cable into motor and secure with locking clip.
2. Verify the mains cable strain relief is attached to the bed shear arm assembly.

Improper routing of cables could lead to user injury.

After completion of assembly, always check that bed is fully functional before placing patient in bed.

2.4 Disassemble the *Alegio NG* bed

1. Lock all castors. Remove all accessories, end boards and mattress.
2. Bring bed to its lowest height position and adjust all mattress support platform to horizontal.
3. Disconnect the mains power cable. Roll cable and place on hook at head end of bed.

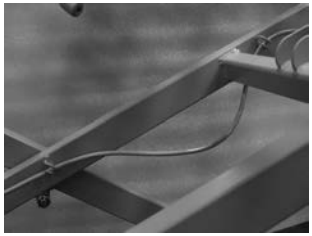
If the bed is provided with cable actuated foot section, follow step 4.

4. Unfasten cable from foot section deck bracket, being sure to retain the clevis pin and hitch pin.
5. Unscrew the threaded knobs from the middle of both sides of the bed frame.
6. Pull the head section away from foot section to disengage brackets and plastic glides.
7. On the foot section, rotate the locking pins on the snap-lock fittings. Pull foot section up and away from the shear arm pivot pins.

1.A

2.A

3.A



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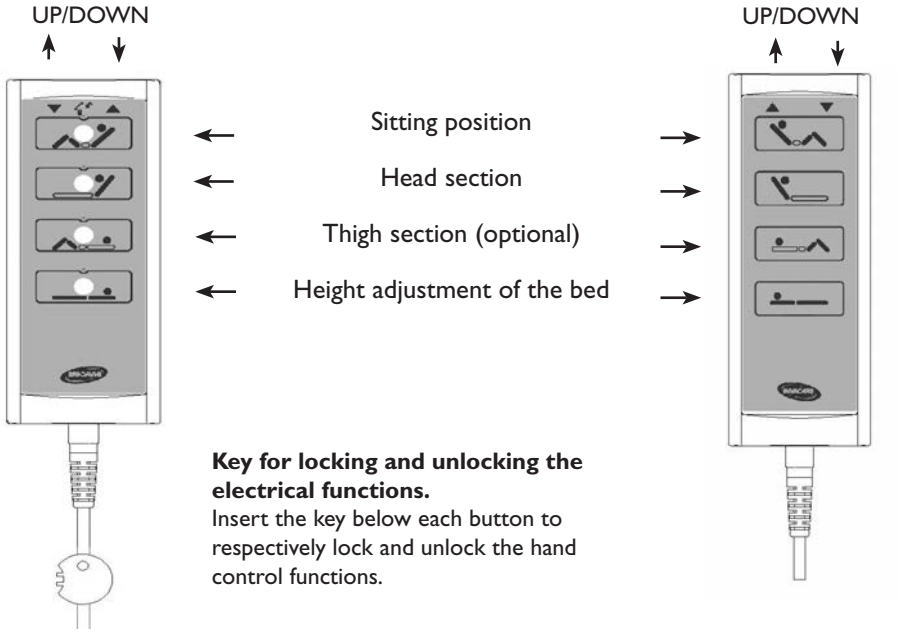
3. Operating the bed

3.1 Operating of the hand control unit.



Key for locking and unlocking the electrical functions.
Insert the key below each button to respectively lock and unlock the hand control functions.

HL 70 (with integrated ACP function)

HB70

To deactivate bed functions, remove mains cord plug from power outlet.

3.2 Operating the braking castors

Set-off from the castors might under special conditions appear at different types of absorbing floor covering - including untreated or badly treated floors. In matters of doubt, *Invacare*® recommends to place a suitable kind of protection between the castors and the floor. Do not release the brake with the fingers as there can be a risk of trapping.

Always apply the brakes when there is no need for moving the bed, to avoid accidents during entering or exiting the bed, and during handling of the patient.

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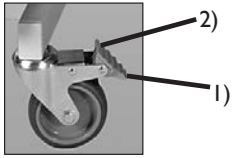
Operating castors without central braking system
Each of the castors is provided with brakes for both lengthwise and crosswise locking.
The brake is foot-operated.



When the bed is positioned correctly, at least one castor at the head end and one castor at the foot end must be locked.
1) Braking: Step on the pedal.
2) Releasing the brake: Step on the release pedal.

Operating the steerable castor
The ***Alegio NG*** with central braking system may be equipped with a steerable castor.
The steerable castor is operated by means of the central braking pedal.
1) Activating the steering: If the brake is in neutral, step on the green pedal.
2) Deactivating the steering: Step on the red pedal, until the brake is in neutral position.

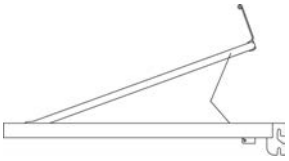
Placement in the room.

The bed must be placed so that the height adjustment (up/down) is not obstructed by, for example, lifts or furniture. Otherwise there is a risk for injury on user and/or equipment.

3.3 Adjustment of leg section (optional)

Operate the leg section by lifting the leg section.
Up: Lift the leg section. **Down:** Lift the leg section right up and then lower the leg section.

3.4. Emergency lowering of the backrest and/or thigh section

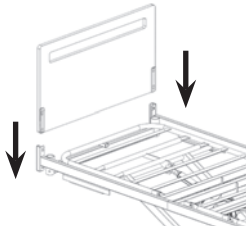


An emergency release of the mattress support may be necessary in case of e.g. a power- or motor failure. An emergency release of the height adjustment is **NOT** possible.
Remove the plug from the mains before emergency release of the mattress support.
1) Hold the backrest. 2) Remove the pipe pin from the backrest motor.
3) Lower the backrest motor. 4) Lower the backrest.

A minimum of 2 persons are required to emergency release a mattress section. Both persons hold the mattress section. One person pulls out the pipe pin. Both slowly lower the mattress section until it is completely down.

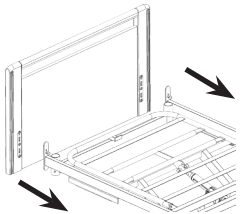
4. Accessories

4.1 Mounting/dismounting bed end onto U-bracket style fitting



Mounting
Lower the bed end in the U-bracket fitting. Press down firmly and ensure that bed end is fully seated at bottom of U-bracket fitting.
Dismounting
Hold bed end firmly on each side. Pull up vertically on both sides at the same time.

4.2 Mounting/dismounting bed end onto Sanne style fitting



Mounting
Align the slots in the bed end with the tabs on the Sanne fitting.
Place bed end onto tabs and push down firmly and ensure that bed end is fully seated on the tabs. Rotate the locking pin to allow it to engage with the bed end.

To avoid injury, it is essential that the locking pins are engaged to prevent the bed ends from falling off.

Dismounting
Pull out he locking pin and rotate to temporarily disengage from bed end.
Repeat for both sides. Hold bed end firmly on each side. Pull up vertically on both sides at the same time.

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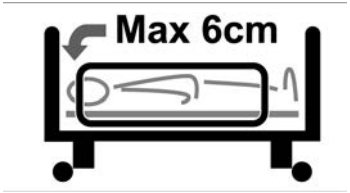
4.3 Mounting / dismounting the steel Verso 11 side rail



Mounting
The side rail must be mounted according to the side rails assembly instructions.
Tighten the side rail with the finger screws.

Dismounting
Loosen the finger screws and remove the side rail.

Operating
Up: Lift up on the top tube of the side rail with a rotating motion toward the head end of bed. Ensure the locking mechanism engages.

Down: Pull the plastic knob on the locking mechanism and push down on the top tube of the side rail with a rotating motion toward the foot end of bed.

EN

When 3/4 length using side rails you must always make sure that the distance between the bed end and the side rail's handle upper edge is between 0-6 cm for the the head section and more than 32 cm for the foot section

There is a risk of entrapment of fingers on assembly and operation of the side rail.
Please ensure that the side rail locking system has engaged properly by pulling / pushing the upper bar.

4.4 Mounting/dismounting the Line and Britt V side rail

Mounting the Line and Britt V side rail

1. Mount one end at a time. Lift the upper bar (the release buttons must face up/outwards) (A).
2. Press the locking pin at the end of the side rail with a finger.
3. All three gliding shoes at the end of the bars are guided into the bed end rail, until the lower bar has been locked, thereby preventing the side rail from falling down (B).
4. Repeat points 2 and 3 when mounting the other end of the side rail.

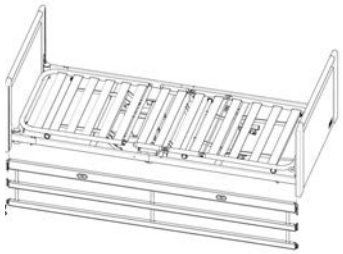
> To avoid entrapment/suffocation or accidental fall accidents from the mattress support, it is essential that the gliding shoes are correctly guided into the bed end rails. Adjust the side rail bars by hand, to ensure they are mounted correctly.

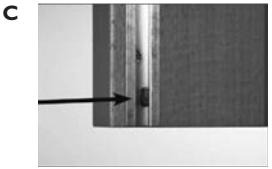
Dismounting the Line and Britt V side rail

1. Lower the side rail.
2. Dismount one end at a time. Lift the lower bar, so that the spring pawl is visible.
3. Press the spring pawl with a key or a screwdriver (C).
4. Hold the lower bar. Lower the side rail, until all three bars are free of the bed end rail.
5. Repeat points 2 to 4 when dismounting the other end of the side rail.

Operating Line and Britt V side rail

The bed end may be equipped to lock the side rail at half height as well as in the top position. Normally the side rail can only be locked in top position.
Up: Pull up the top side rail bar, until the locking pin locks with an audible click.
Down: Lift the top side rail bar and press the two locking rings together. Lower the side rail.





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4.5 Lifting pole

Position the lifting pole in such a way that the handle extends inwards across the bed. Always lock lifting pole with thumb screw. If the lifting pole is used while the handle has been turned away from the bed - the bed can tip when the handle is used. Maximum load of the lifting pole is 80 kg. Make sure that the lifting pole screw is properly tightened.

A

B

Mounting

1. Insert the lifting pole into the lifting pole tube and fix with the thumb screw.

Adjusting the height of the lifting pole handle

1. Loosen the cord as shown in **A**.
2. The lifting handle can now be adjusted to the desired height.
3. Press the cord together as shown in **B** and check that the cord is locked in the cord lock by pulling the handle.

The distance between the lifting pole and the mattress

Minimum (at 16 cm mattress)	36-59 cm
Maximum (at 10 cm mattress)	42-65 cm

4.6 Fitting the mattress support extension

1. Remove the bed end board
2. Loosen the machine screws that secure the standard length bed end brackets and remove.
3. Insert the extended length bed end brackets into the frame tubes and secure with machine screws.
4. Replace the bed end board and secure with tapping screws.
5. Add the mattress deck extender to the foot end of mattress deck.

EN

4.7 Mattress

Safety aspects regarding combination of side rails and mattresses.

In order to obtain the highest possible safety level, when using the bed in combination with side rails, it is important to respect the minimum and maximum measures for mattresses stated in the table.

To mitigate the possibility of the user crawling over the top of the side rail, with the risk of severe injury due to e.g. falling, a minimum vertical distance of 22 cm between the top of the mattress and the top of the side rail are to be respected.
The maximum mattress height in combination with a given side rail is stated in the table.

The ***Alegio NG*** is equipped with mattress support brackets. These brackets must be properly installed on both sides of the bed, in combination with the correct mattress size, to prevent patient entrapment and risk of suffocation.

To prevent head entrapment between the inside surface of the side rail and the mattress, with the risk of e.g. suffocation, a safety maximum space has to be respected. When especially very thick mattresses or soft mattresses (low density) or a combination of these it is important to focus on this risk. The minimum width (and length) of mattresses in combination with a given side rail is stated in the table.

Alegio NG	Max. Mattress Height	Min. Mattress Height	Min. Mattress Width	Max. Mattress Width	Min. Mattress Length*	Max. Mattress Length*
Verso 11 side rail	18 cm	10 cm	85,5 cm	95 cm	195 cm	206 cm
Line side rail	20 cm	12 cm	85,5 cm	95 cm	195 cm	206 cm
Britt V side rail	20 cm	12 cm	85,5 cm	95 cm	195 cm	206 cm
Scala Basic 2 side rail	17 cm	10 cm	85,5 cm	95 cm	195 cm	206 cm
Scala Basic Plus 2 side rail	17 cm	10 cm	85,5 cm	95 cm	195 cm	206 cm
Scala Medium 2 side rail	22 cm	10 cm	85,5 cm	95 cm	195 cm	206 cm
Scala Decubi 2 side rail	31 cm	23 cm	85,5 cm	95 cm	195 cm	206 cm

* For beds equipped with mattress support extension, add 15 cm.

4.8 Transport trolley

Beforehand, lock the brakes of 2 bottom castors of the base by positioning them upward to avoid that they touch the ground during the manipulation.

1) Mount foot section onto these tubes (1) with motor facing away from trolley cross-channel (5).
Secure foot section to trolley with finger knobs. Place the lifting pole onto its location (2).

2) Mount head section onto these tubes (3) with motor facing away from trolley cross-channel (5).
Secure head section to trolley with finger knobs.

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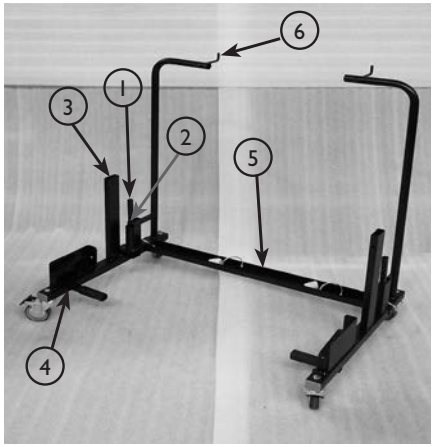


1.A

1.B

1.C

2.A

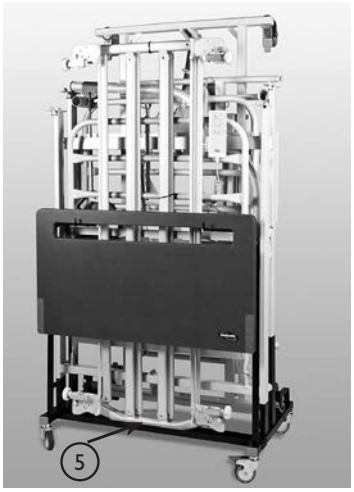
3) Align square glide bushings of base assembly with brackets (4) and roll onto trolley as far as possible.
Lift end of base assembly into a vertical position, allowing the square glide bushings to engage into the brackets (4).
Secure base to trolley with spring pins.

4) Place Verso II Rails (if applicable) into cross-channel of trolley (5).

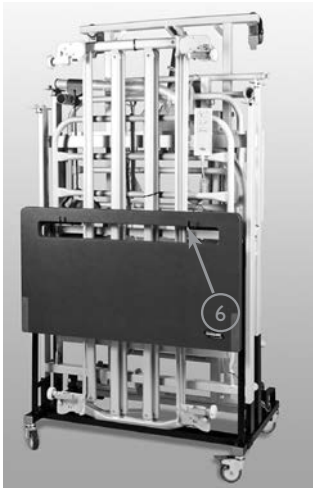
5) Place bed ends onto trolley hooks (6).

3.A

3.B



4.A



5.A

5. Order numbers for accessories

1552556-0102	Vibeke NG, wooden bed ends, cherry, (for steel side rails)
016609.01	Oda bed end, beech, 90 cm
018940.01	Piggy bed end, beech, 90 cm
1523501-xxx	Susanne bed ends
1523453-xxx	Emma bed ends
1523359-xxxx	Sophie bed end
1523804-xxxx	Victoria bed end
1523473-xxxx	Anita bed end
1554518-0154	Verso II steel side rail
1538458-xxxx	Britt V wooden side rail
1522786-xxxx	Line side rail, beech, one pair
1522787-xxxx	Line extendable side rail, beech, on pair
1528930-0154	Scala Basic 2 collapsible steel side rail, one pair, alu-grey
1529745-0154	Scala Basic Plus 2 collapsible steel side rail, one pair, alu-grey
1530436-0154	Scala Medium 2 collapsible steel side rail, one pair, alu-grey for SB 755
1530817-0154	Scala Decubi 2 collapsible steel side rail, one pair, alu-grey for SB 755
1538345-0125	Side rail height extender for Line, Line extendable, beech, 1 piece
1538420-0125	Side rail height extender for Britt IV, beech, 1 piece
1542093-0154	Lifting pole with adjustable handle
1514356-0154	Drip rod bar steel epoxy + support
SP1567888	Upgrade kit - legrest actuator and locking handset
1177495-9005	Transport kit for a assembled bed
1177494-9005	Trolley (non compatible with central brake)
1417511-0154	Support handle H40xW30
1177424-0154	Extension kit + 15cm
1567871-0154	Extension kit + 15cm and foam insert
1522587	15 cm foam insert
SP1177259	Rastofix
1530159	Paint for repair
SP1177368	Hand set HL72 with integrated ACP function
SP1177370	Hand set HL73 with integrated ACP function
SP1177374	Hand set HL74 with integrated ACP function
SP1177361	Hand set HB72
SP1177363	Hand set HB73
SP1177365	Hand set HB74
1494608	Safety Floor Mattress

xxxx - Colour must be indicated

Beech	0125
White pigmented	0126
Cherry	0127

6. Cleaning and Maintenance

6.1 Cleaning

The bed does not tolerate cleaning in automatic washing plants or the use of water-jet based cleaning equipment.

1. Please make sure the power plug is removed from the socket outlet before cleaning.
2. The bed should be washed down using a wet sponge, cloth or brush.
3. Use ordinary household cleaning agents. Never use acids, alkalines or solvents such as acetone or cellulose thinner.
4. The hand control, motors and control unit may be washed with brush and water, but not with pressurized water.
5. Dry the bed after cleaning.

NB! All plugs must be installed during washing of the bed.

6.2 Maintenance chart

Service and maintenance of the *Alegio NG* must only be performed by personnel who have received the necessary instruction or training. Bed/Id. no.: _____					
Date: Initials:					
Visual inspection of all parts of the bed (plastic deformation and/or wear and tear of welded joints).					
Check all pins and clips. Check that all screws / bolts / nuts / are tight.					
Control of all centres of rotation (motors + mattress support parts).					
All motors running without failures (with regular speed and at low noise).					
Check the Rastofix fittings and function.					
Visual inspection of all bed ends for damages.					
Check that mains cable and plug are intact. Check the running of the cable.					
Check all remaining cables for damages. Also check the running of the cables.					
Check of siderails´ fixing and locking/movement.					
Check straps on Line and Britt V side rails - must not be frayed or cracked.					
Check the wheels (security, braking and free rolling).					
Check all accessories					

6.3 Maintenance

- Personnel who have received the necessary instructions or training may only perform Service and maintenance of the bed.
- When relocating the bed, service must be carried out according to the service schedule.

- Before use
Ensure that all manual and electrical parts functions correctly and are in a secure state.

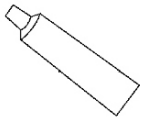
- After 3 months
Ensure that all manual and electrical parts are functioning, and tighten bolts, screws, nuts, etc.

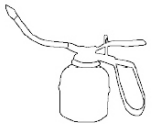
- Every two year
Service should be performed after the maintenance chart. See chapter 6.2 - Maintenance chart.

Modification of ***Alegio NG*** is strictly forbidden without authorization of Invacare

6.4 Lubrication plan

We recommend lubricating the bed according to the following instructions:





1. Points of rotation in mattress support and base frame - Lubricate with oil.
2. Motor attachment points to mattress platform - Lubricate with oil.
3. Upper attachment point of Rastofix fitting - Lubricate with oil.
4. Scissor pivot bolts and attachment bolts - Lubricate with oil.

NB! The full length side rails gliding system must not be lubricated with oil – otherwise the side rail bars will move sluggishly.

Lubricate with medically clean oil, e.g. KEN-WO 50, order no.: 813239.

NB! Remove the mains plug from the socket before cleaning.

7. Electrical system

Voltage supply:	230 V ~ 50 Hz.
Max. current input:	2 A.
Voltage output:	24 V ~ max. 70 VA.
Intermittent (periodic motor operation):	10%, max. 2 min/18 min.
Sound level:	45/50 dB(A)
Protection class:	IPX6

Insulation class: II, type B.

Alternating current:

Direct current:

Type B Applied part:

Potential equalization:

Indoor use only

Thermal fuse product

The bed is not provided with a mains switch, so the mains plug is the only separation from the mains.

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7.1 Trouble-shooting the electrical system

Symptom	Possible cause	Remedy
The motor is not running. The relay in the control box makes a clicking noise.	1) Motor plug not pushed fully into the control box. 2) The motor is defective. 3) Motor cable is damaged. 4) Control box defective. 5) Hand control defective	1) Push the motor plug right into control box. 2) Replace the motor. 3) Replace the cable. 4) Replace the control box. 5) Replace the hand control.
Control box is in order except one direction on one channel.	1) Hand control defective. 2) Control box defective.	1) Replace the hand control. 2) Replace the control box.
Motor is running, but the spindle does not move.	Motor damaged.	Replace the motor.
The motor cannot lift full load.		
Motor noise, but no movement of piston rod.		
Piston rod operate inwards and not outwards.		

7.2 Electro Magnetic Compliance (EMC)

Guidance and manufacturer´s declaration – electromagnetic emission		
The medical bed ***Alegio NG*** is intended for use in the electromagnetic environment specified below. The customer or the user of the bed should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11 (partly)	Group 1	The medical bed ***Alegio NG*** uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11 (partly)	Class B	The medical bed ***Alegio NG*** is suitable for use in all establishments including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer´s declaration – electromagnetic immunity			
The medical bed ***Alegio NG*** is intended for use in the electromagnetic environment specified below. The customer or the user of the bed should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient / burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles < 5 % U_T (>95 % dip in U_T) for 5 sec	< 5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles < 5 % U_T (>95 % dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the medical bed ***Alegio NG*** requires continued operation during power mains interruptions, it is recommended that the medical bed ***Alegio NG*** be powered from an uninterruptible power supply or a battery.

Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE	U_T is the a. c. mains voltage prior to application of the test level.		

			Portable and mobile RF communications equipment should be used no closer to any part of the EQUIPMENT medical bed ***Alegio NG*** including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance
Conducted RF IEC 61000-4-6	3 V	3 V	$d = [\frac{3,5}{V_1}]\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m	3 V/m	$d = [\frac{3,5}{E_1}]\sqrt{P}$ 80 MHz to 800 MHz $d = [\frac{7}{E_1}]\sqrt{P}$ 800 MHz to 2,5 GHz

Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
			where *p* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in metres (m).[b] Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the medical bed ***Alegio NG*** is used exceeds the applicable RF compliance level above, the medical bed ***Alegio NG*** should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the medical bed ***Alegio NG***.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V_1] V/m.

Recommended separation distances between portable and mobile RF communications equipment and the medical bed *Alegio NG*.

The medical bed ***Alegio NG*** is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the medical bed ***Alegio NG*** can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the medical bed ***Alegio NG*** as recommended below, according to the maximum output power of the communications equipment

Rated maximum output of transmitter W	Separation distance according to frequency of transmitter **m**		
	150 kHz to 80 MHz $d = [\frac{3,5}{V_1}]\sqrt{P}$	**80 MHz to 800 MHz** $d = [\frac{3,5}{E_1}]\sqrt{P}$	**800 MHz to 2,5 GHz** $d = [\frac{7}{E_1}]\sqrt{P}$
0,01	0.12	0.12	0.23
0,1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

For transmitters rated at a maximum output power not listed above the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

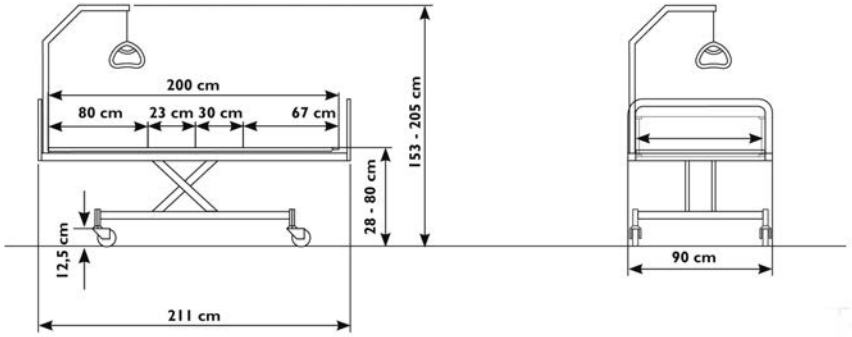
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

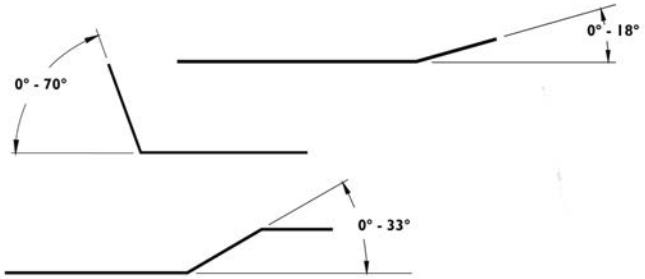
8. Technical specifications

Further information available upon request of Invacare.

8.1 Dimensions

All measurements are stated in cm. All angles are stated in degrees.
All measurements and angles are stated without tolerances.
Invacare® reserves the right to change the stated measurements and angles.





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8.2 Environmental conditions

Environment Conditions			
Temperature	**Relative humidity**	**Atmospheric pressure**	**Lighting conditions**
Storage			
From - 25° C To + 70° C	15% 93%	700 hPa 1060 hPa	Any
Operating			
From + 5° C To + 40° C	15% 93%	700 hPa 1060 hPa	Any
Be aware that when a bed has been stored under low temperatures, it must adjusted to operating conditions before use.			
Dust and lint have no effect on operation of bed			

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8.3 Weights

***Alegio NG* bed**

Alegio NG complete standard bed excluding accessories	65.0 kg
Top frame – head section, Standard	14.0 kg
Top frame – head section, Auto-regression	17.0 kg
Top frame – leg section, Standard	15.5 kg
Top frame – leg section, Thigh Motor	17.0 kg
Top frame – leg section, Foot Motor	17.0 kg
Base and shear arm	35.0 kg
Base	15.5 kg
Shear arm	19.5 kg

***Alegio NG* accessories**

Line side rail - 1 side	4,5 kg
Line extendable side rail - 1 side	6,5 kg
Britt V side rail - 1 piece	8,0 kg
Verso 11 side rail - 1 piece	8,3 kg
Lifting pole	4,2 kg
Rastofix	0,3 kg
Mattress support extension (15 cm)	1,8 kg
Bed Ends, Vibeke - 1 piece	6,0 kg
Bed Ends, Emma - 1 piece	7,0 kg
Bed Ends, Susanne/Sophie - 1 piece	8,5 kg

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9. Waste disposal

This product has been supplied from an environmentally aware manufacturer that complies with the Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/CE. This product may contain substances that could be harmful to the environment if disposed of in places (landfills) that are not appropriate according to legislation. The »crossed out wheelie bin« symbol is placed on this product to encourage you to recycle wherever possible. Please be environmentally responsible and recycle this product through your recycling facility at its end of life.

All wooden parts must be dismantled and sent for incineration. All electric parts must be dismantled and be disposed of as electric components. Plastic parts must be sent for incineration or recycling. Steel parts and castors must be disposed of as waste metals. Waste disposal must comply with the laws and regulations pertaining waste handling in each country.

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Ident. no.: 1563578
Version: EN-B
Date: 12.2012

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EN ISO 13485

ISO 9001 BUREAU VERITAS Certification
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